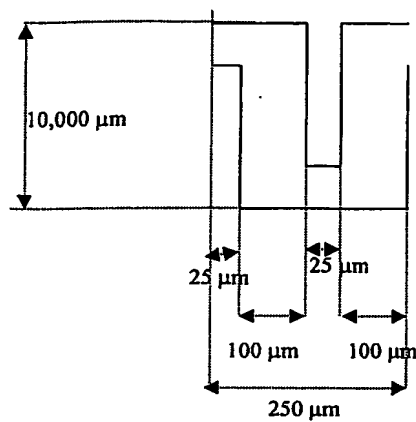


One embodiment of dilution/reaction chambers



Unit Effective length = 20,050 μm

Unit Linear length = 250 μm

Unit Fluid volume = 0.2005 μl (0.1 x 0.1 x 20.05)

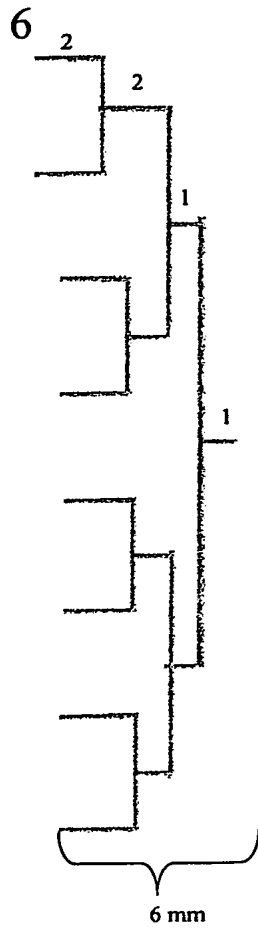
of Units in 33 mm linear length = 132

Total chamber volume = 26.46 μl (0.2005 x 132)

Fluid Residence Time = 42 seconds @ output flow rate
of 5 $\mu\text{l}/\text{sec}$ for 8 networks operating in parallel

FIGURE 3

FIGURE 4



7

PUMP

Peristaltic pump or push-pull
syringe pump operating in pull
mode

Channel width= 100 microns, Channel depth= 100 microns

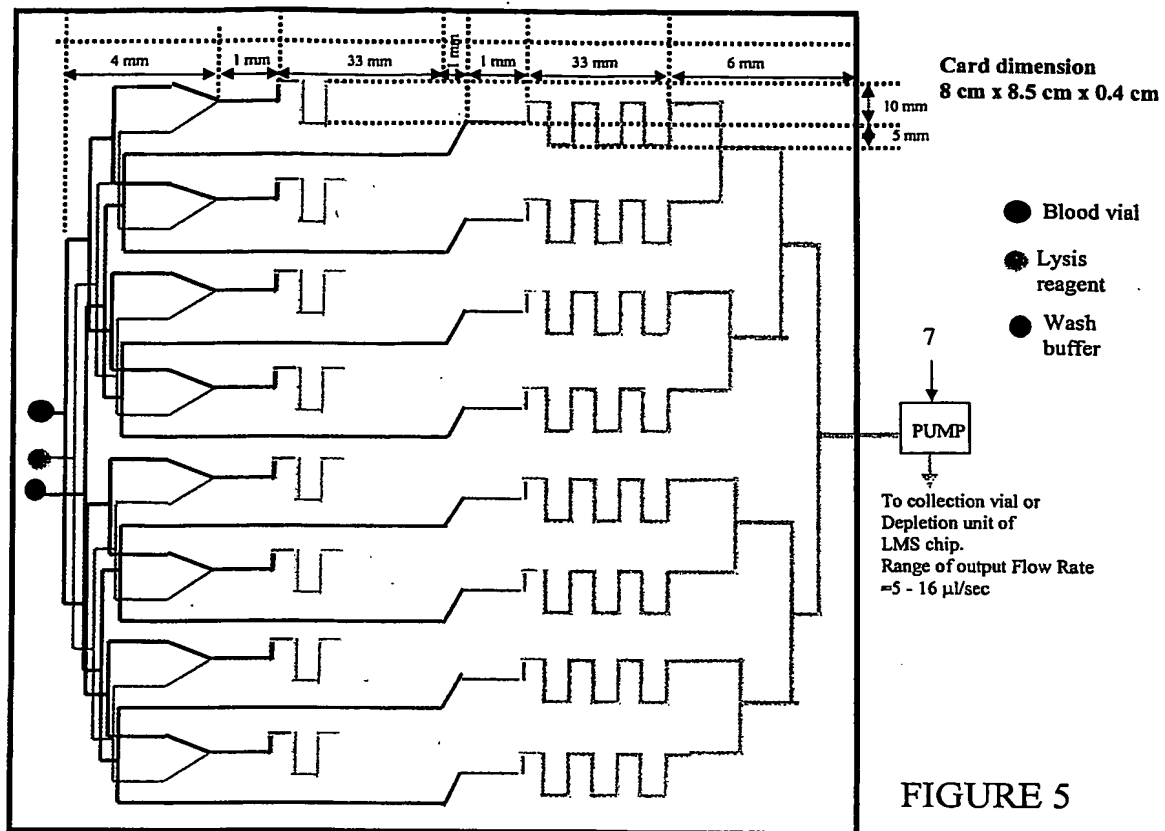


FIGURE 5

FIGURE 6a

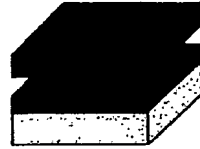
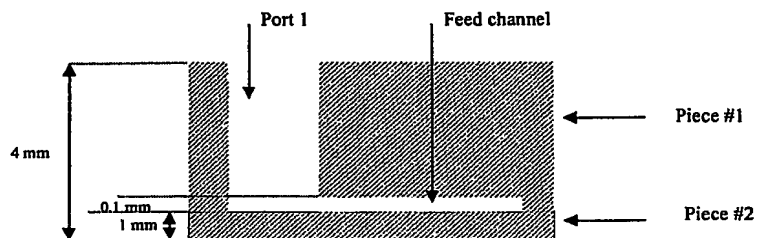
compression moldingspincoating of
thermoplast on
hard substratestamp
with nanorelief
hot embossing
and demolding

FIGURE 6b



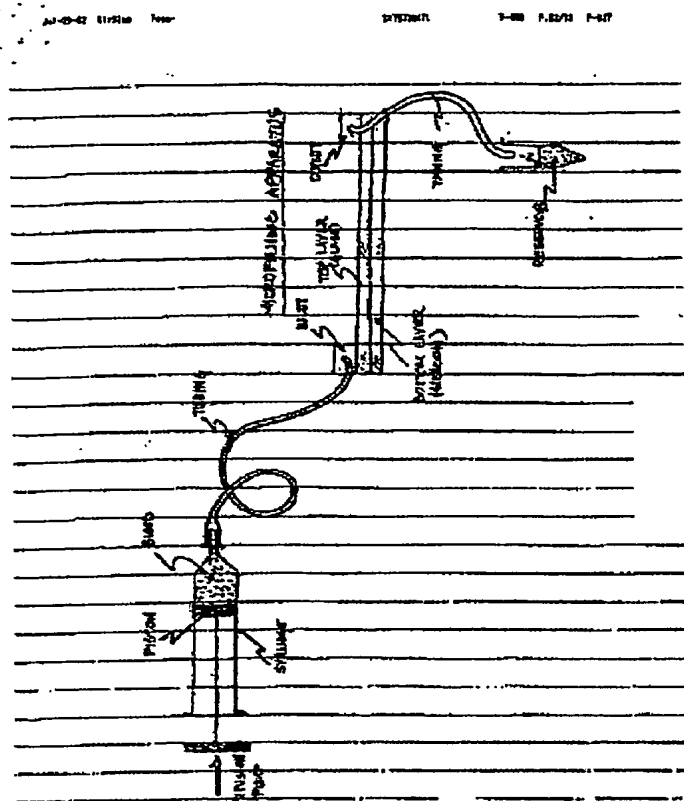


FIGURE 7

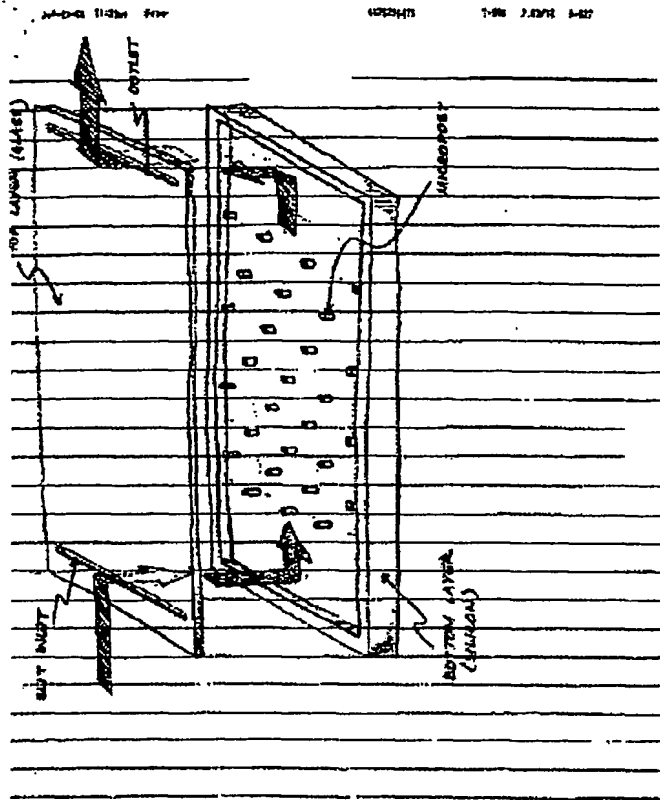


FIGURE 8

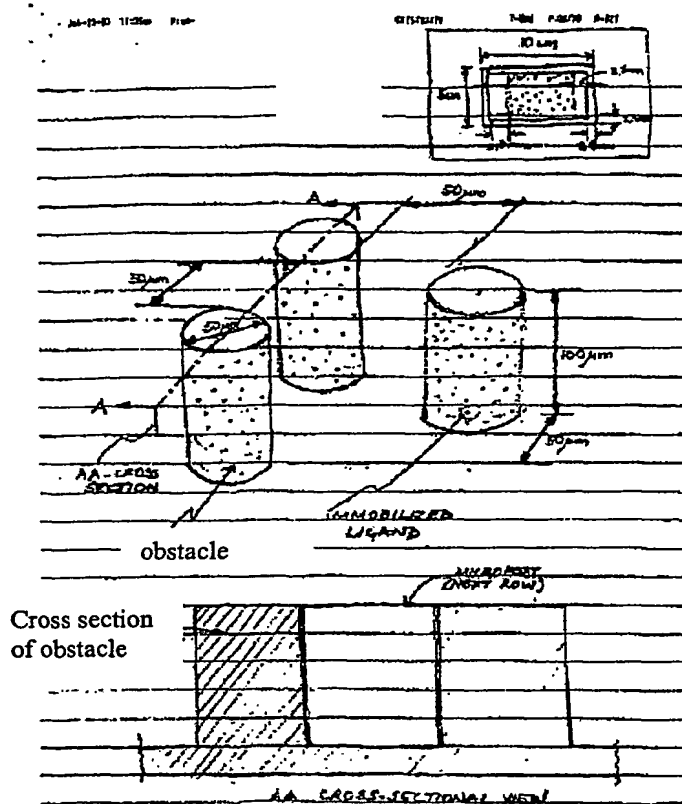


FIGURE 9

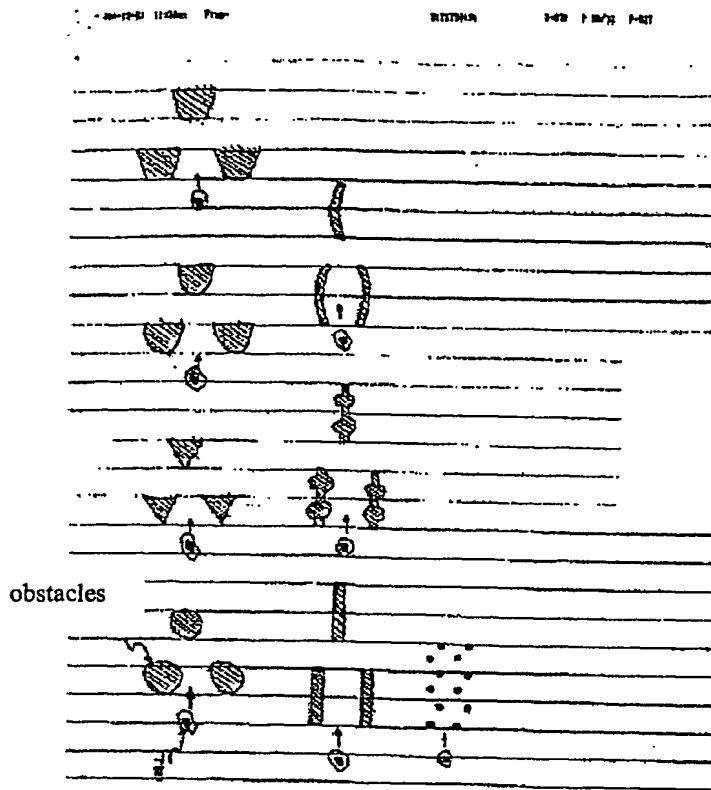


FIGURE 10

FIG. 11A

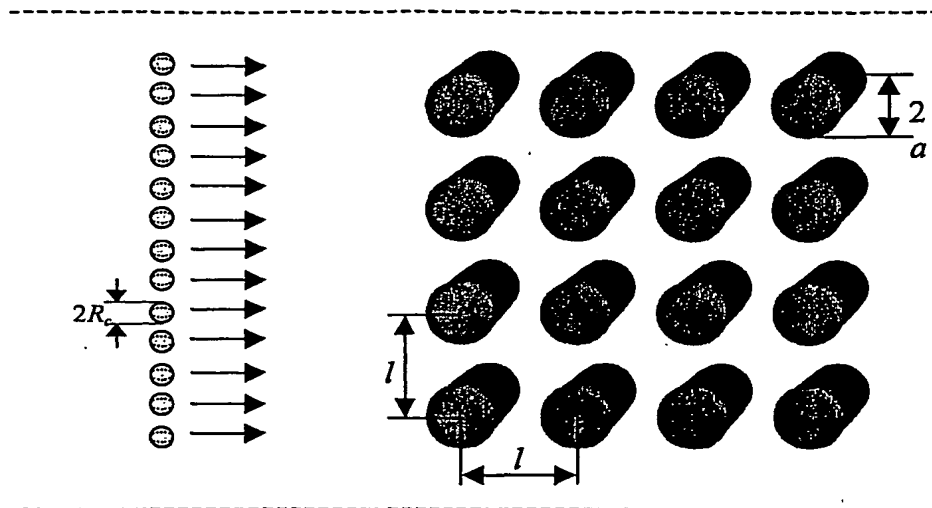


FIG. 11B

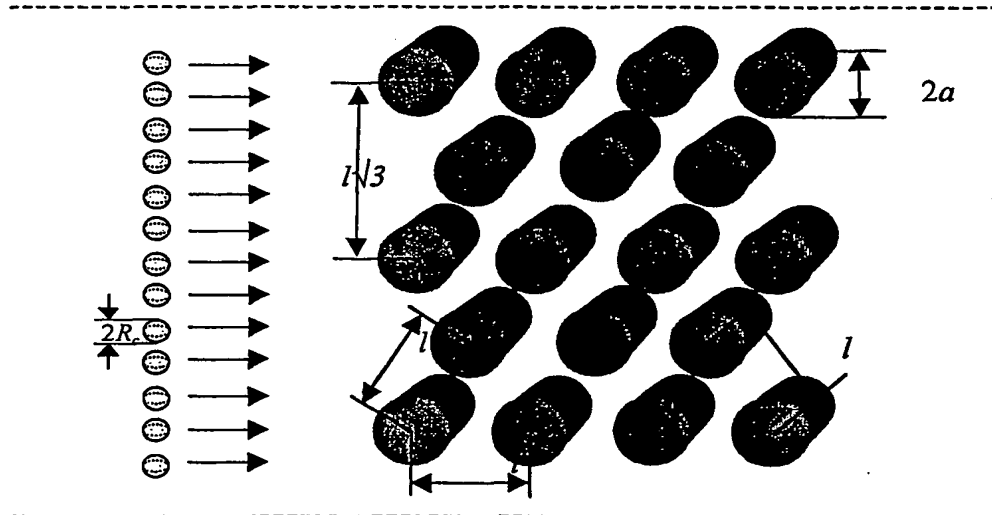


FIG. 12A

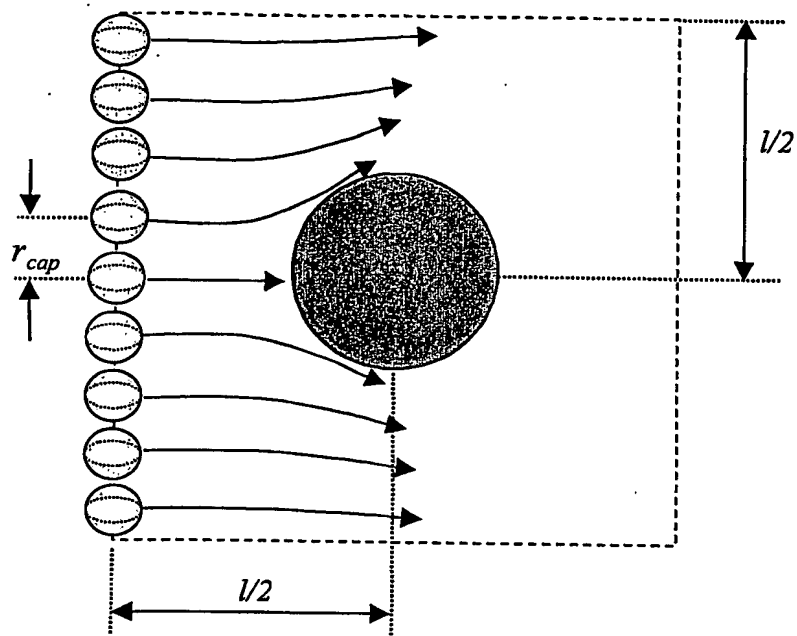
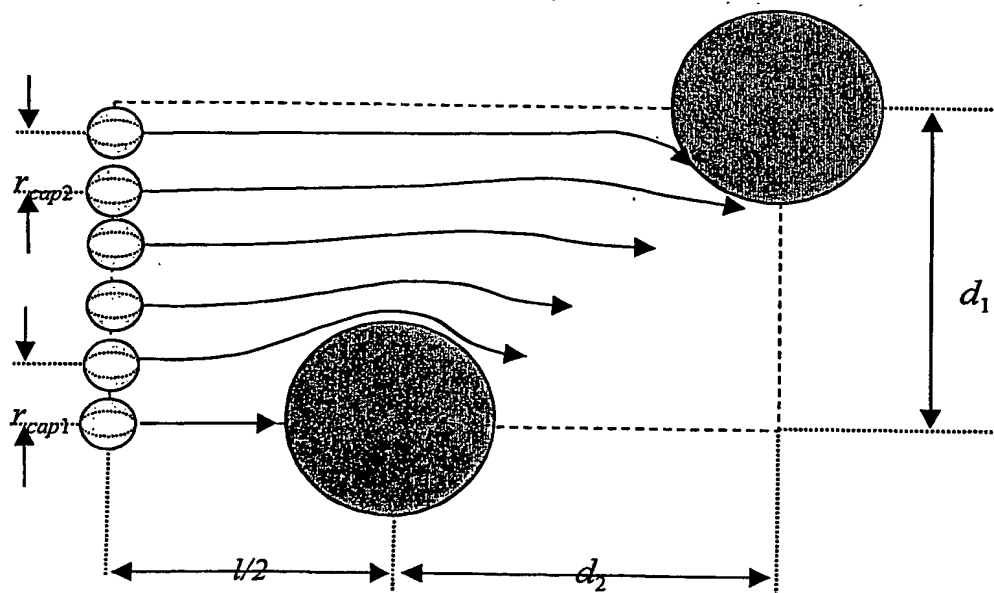
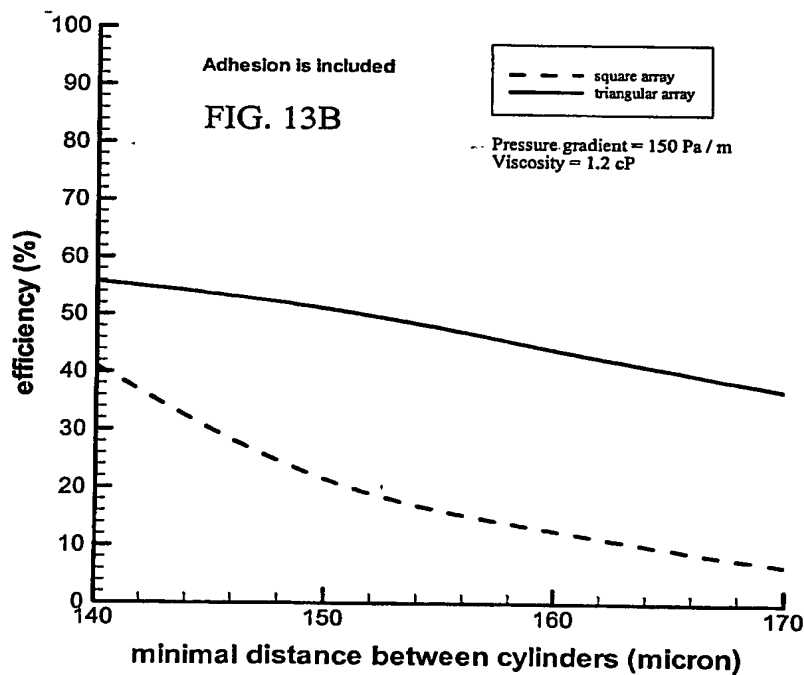
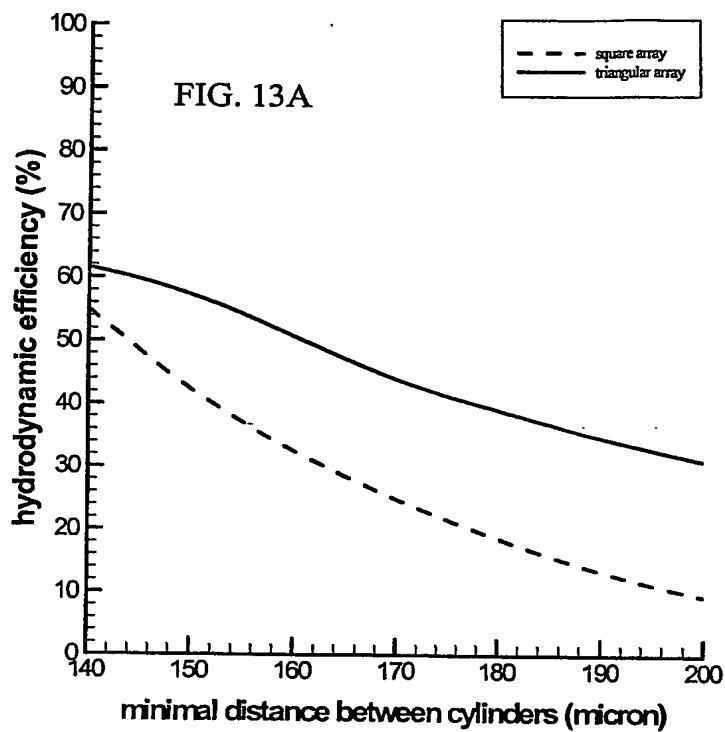


FIG. 12B





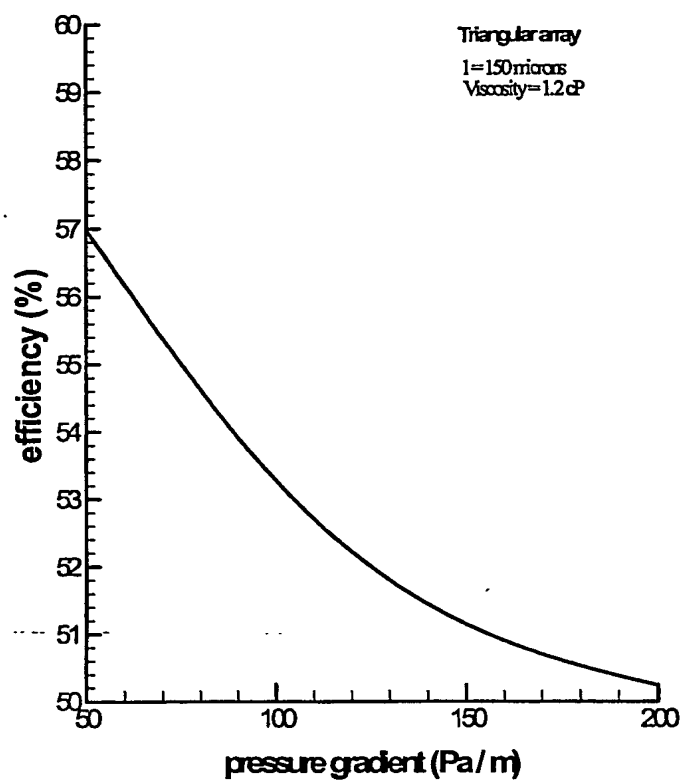


FIG. 14A

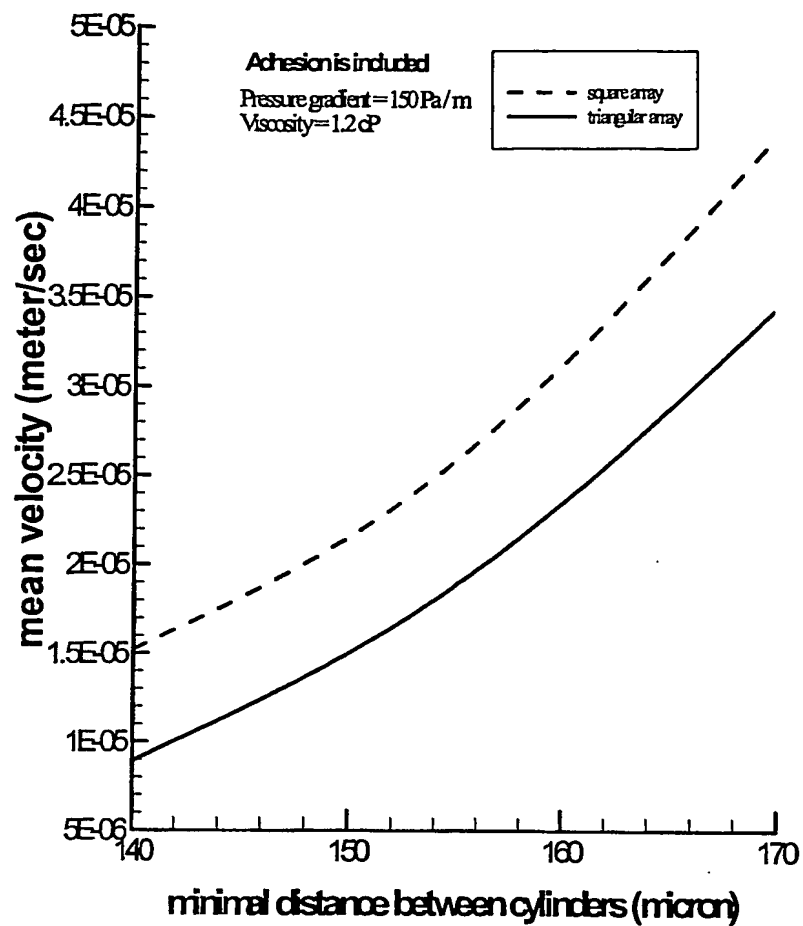


FIG. 14B

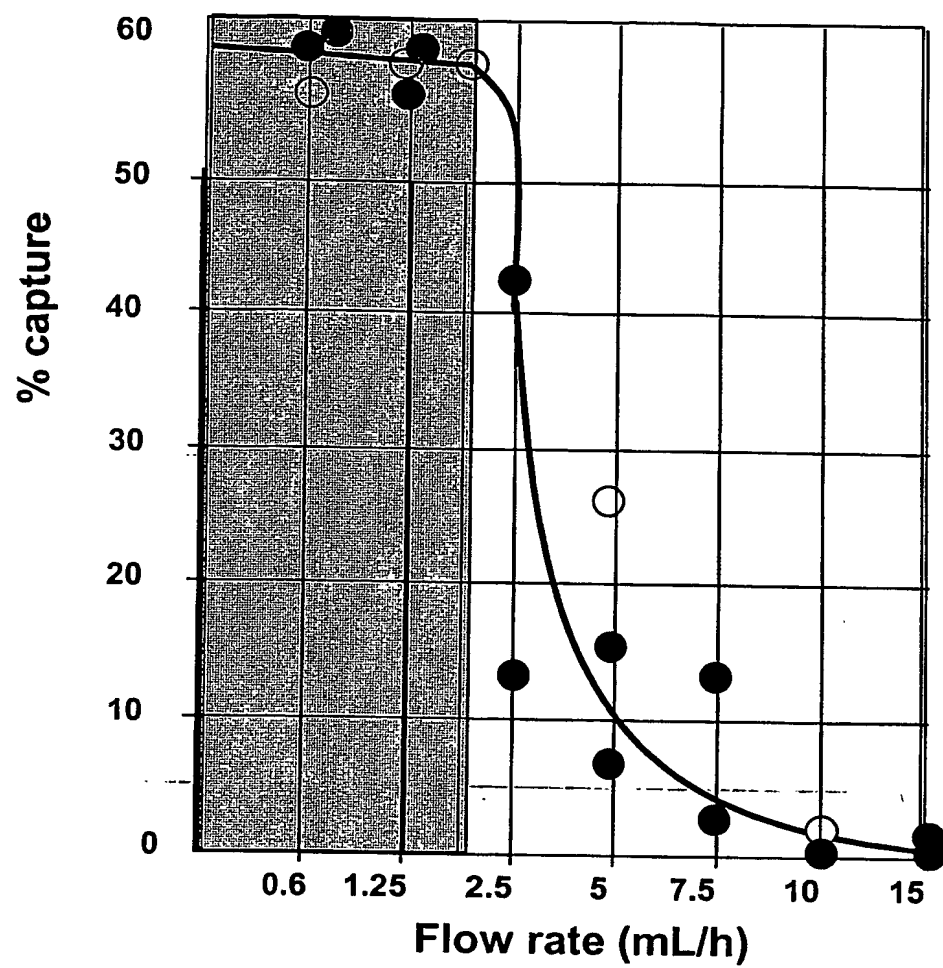
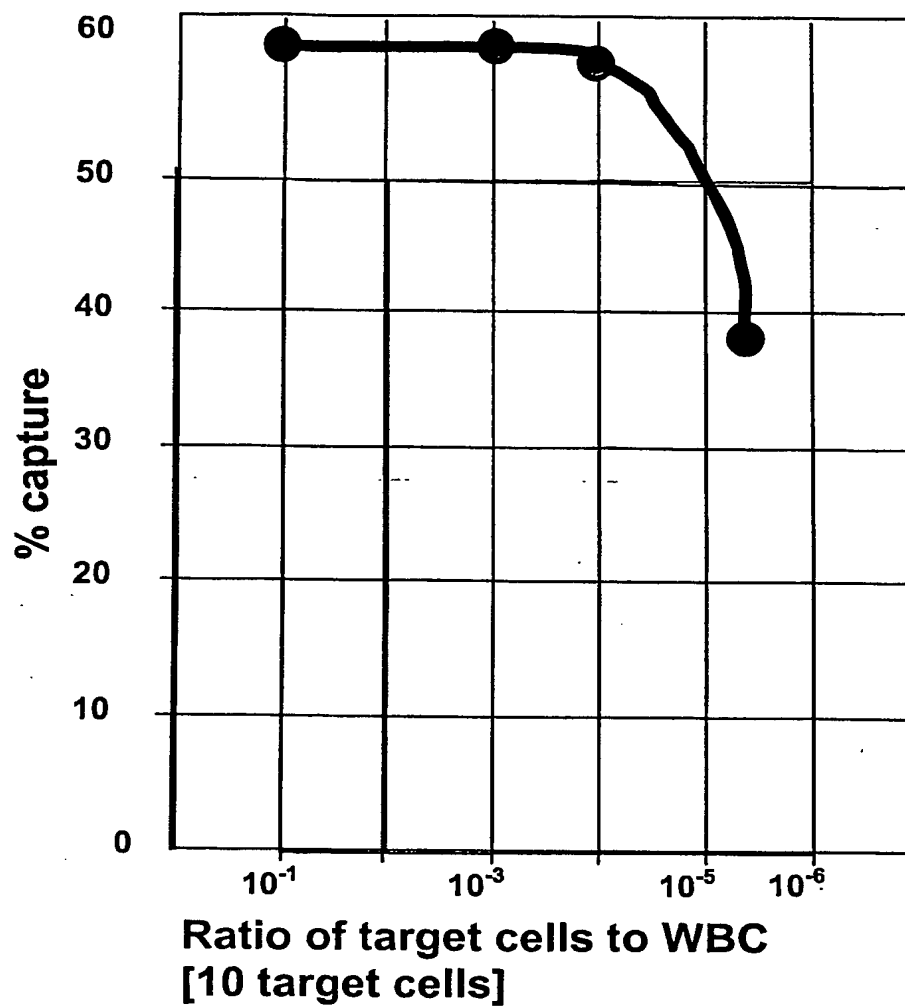


FIG. 16B



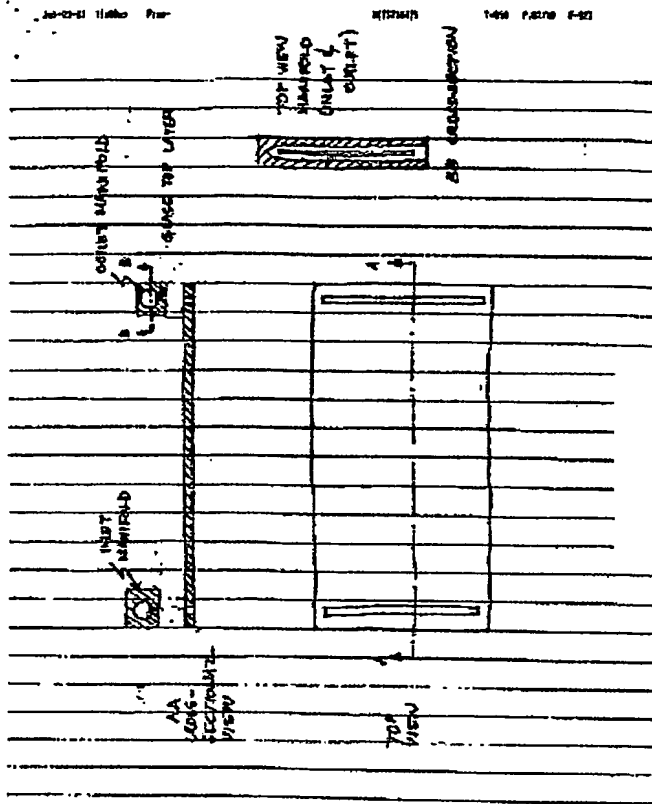


FIGURE 17

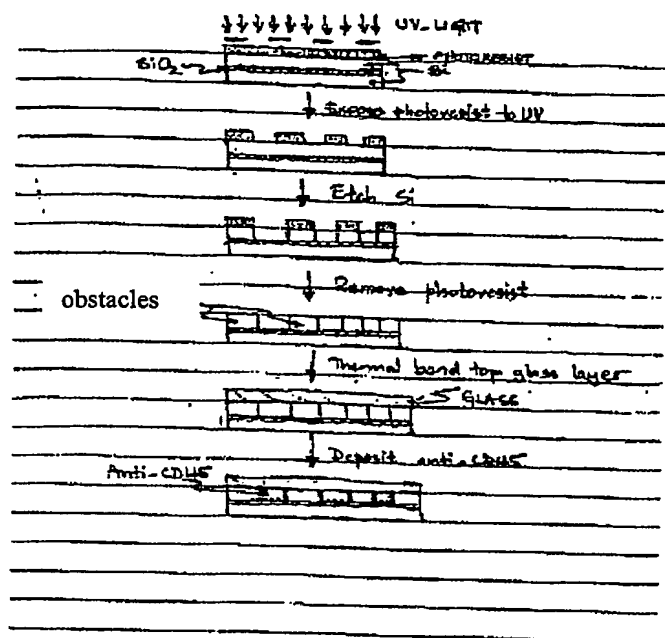


FIGURE 18

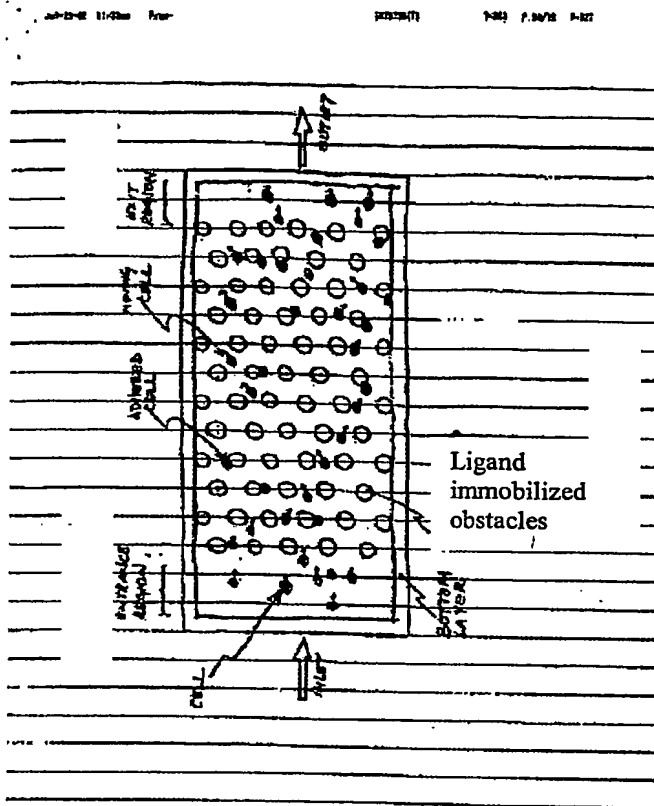
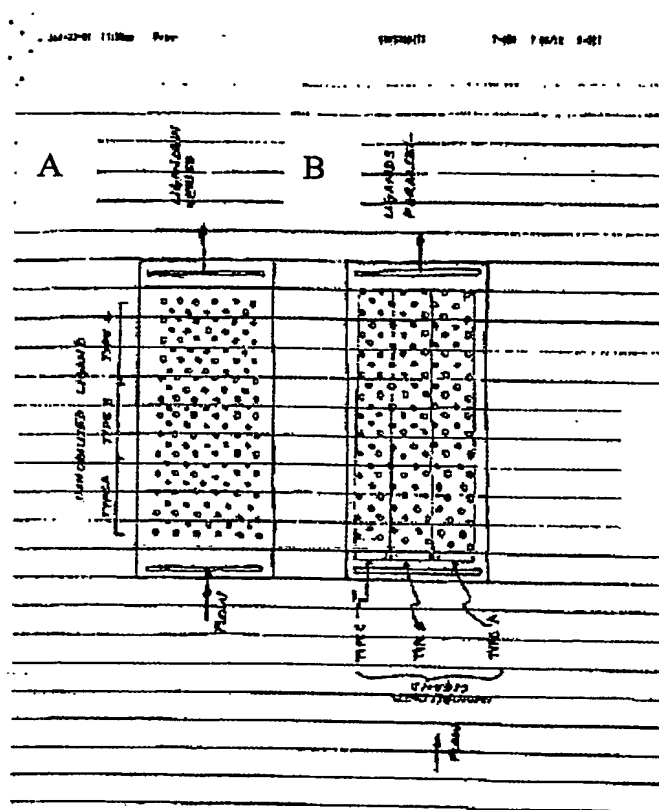


FIGURE 19



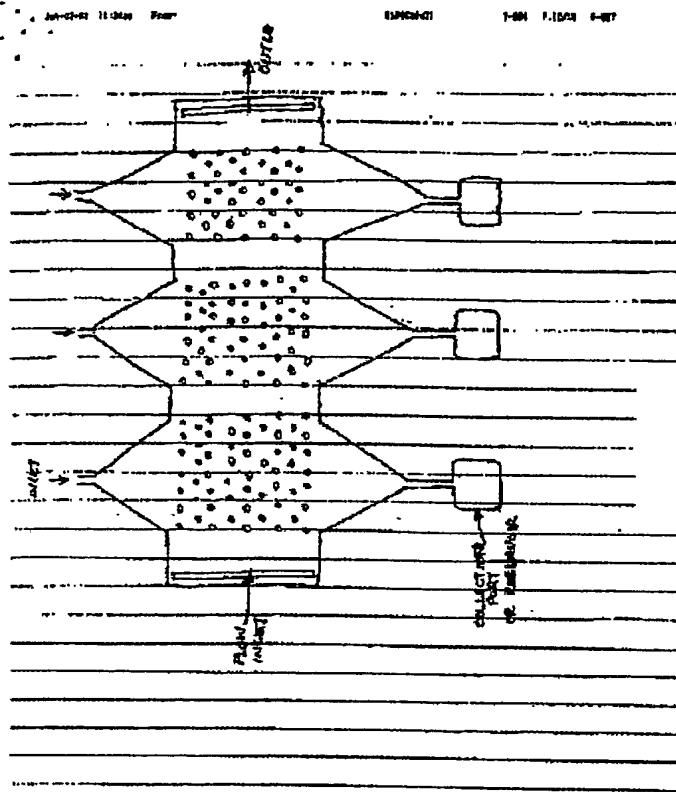
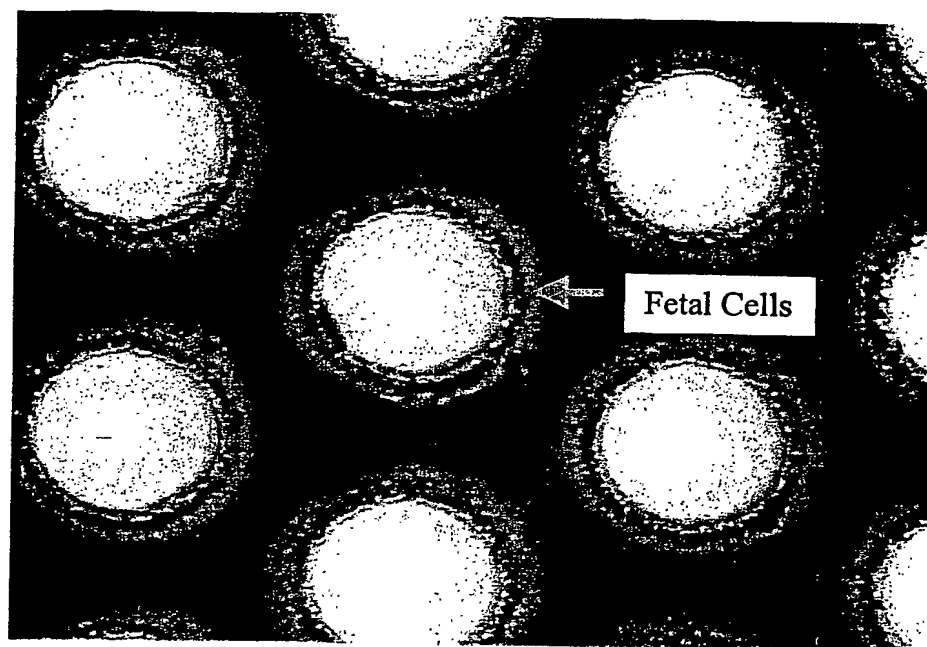
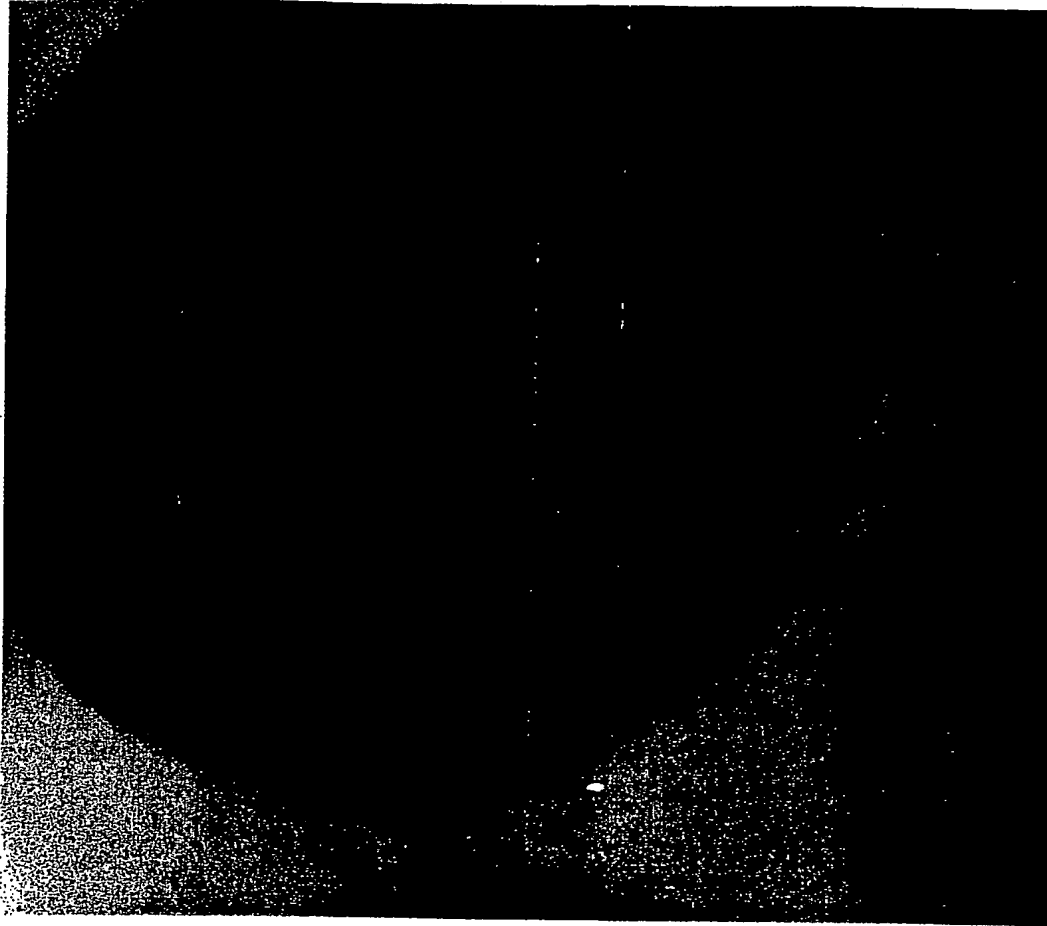
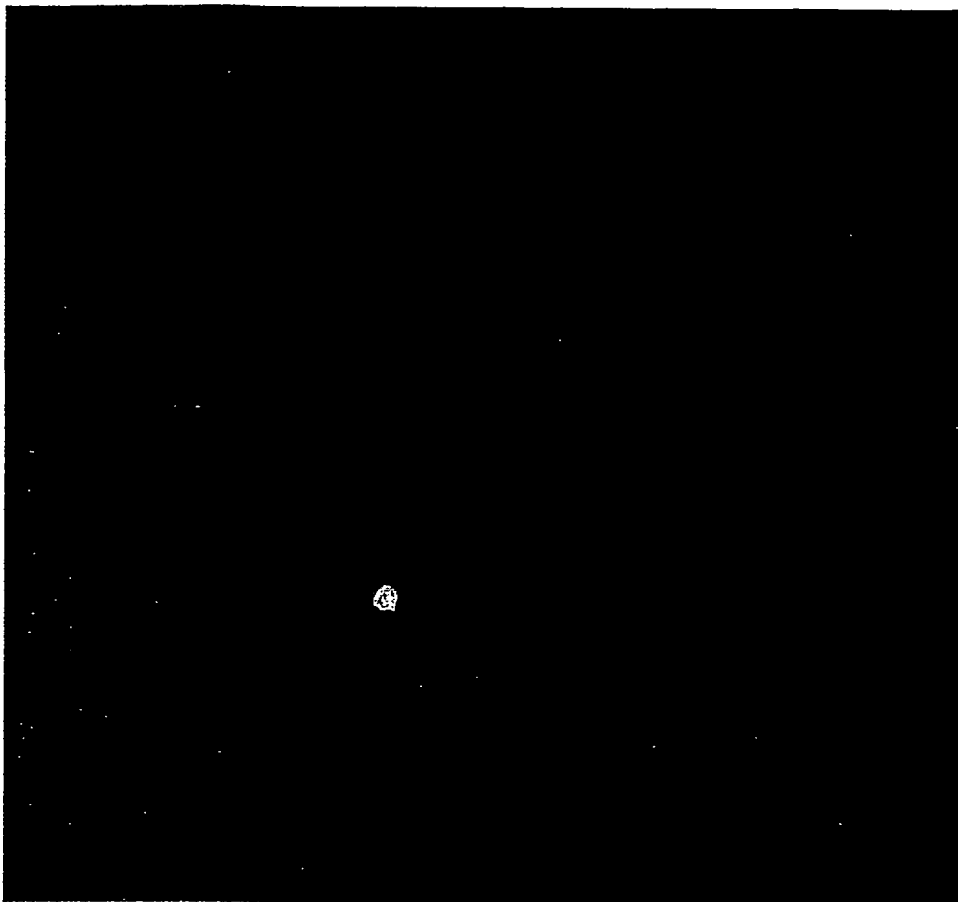


FIGURE 21







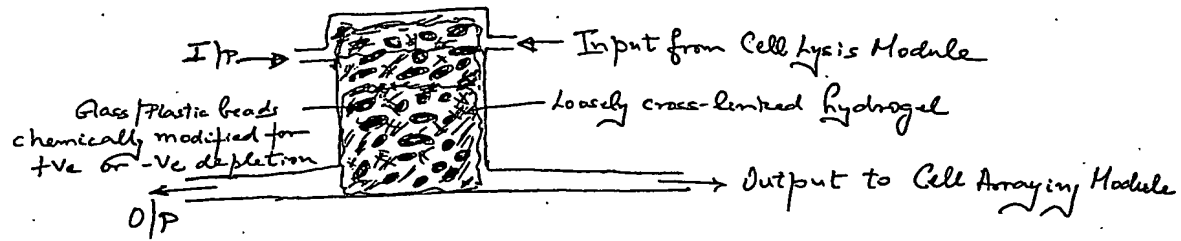


FIGURE 23

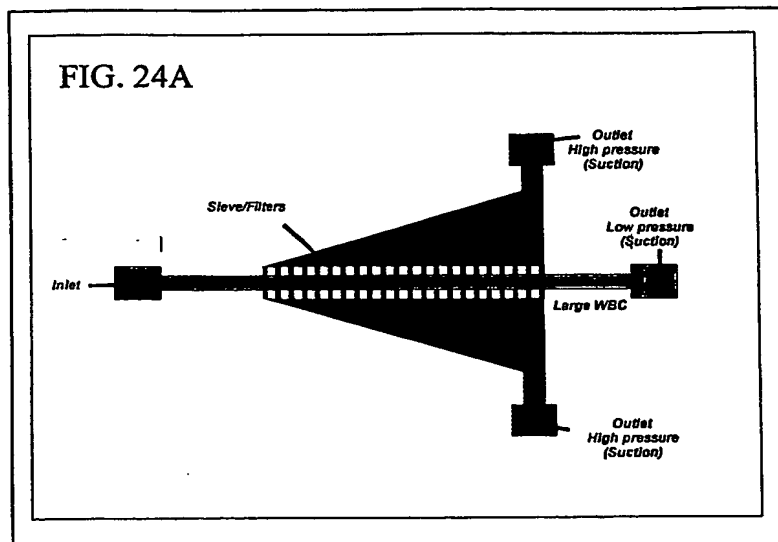
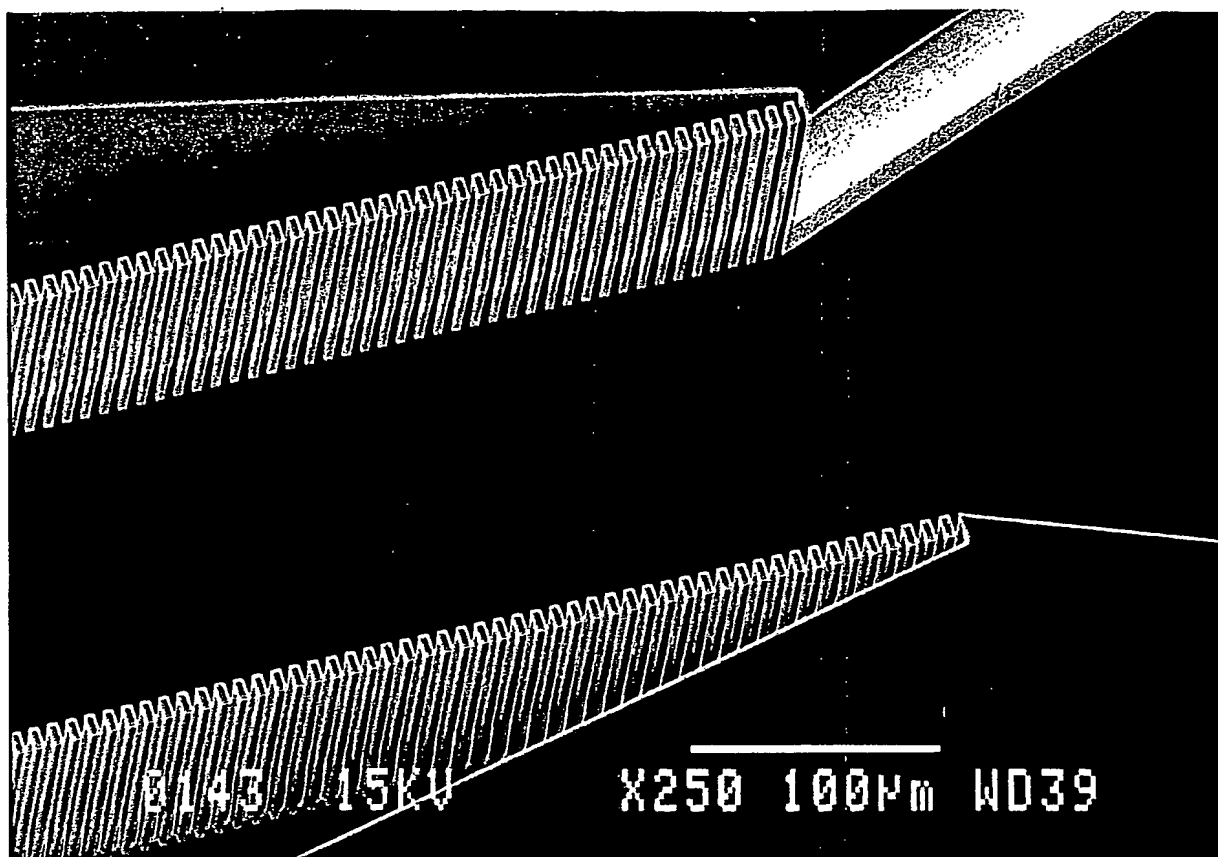
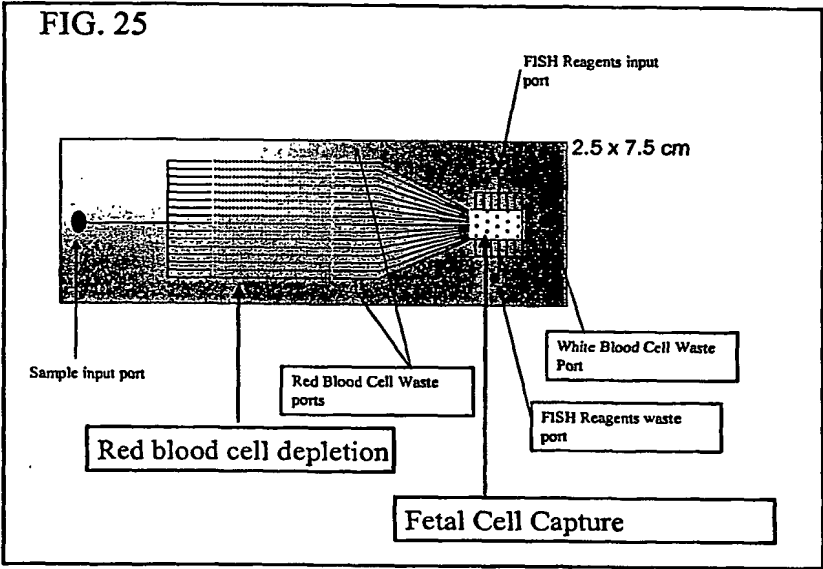


FIG. 24B





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